# XXIV General Meeting

of the

# American Electrochemical Society

Held at

DENVER, COLORADO,

September 9-10-11, 1913.

## DENVER GENERAL COMMITTEE.

H. C. PARMELEE, *Chairman.*
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C. W. COMSTOCK.
W. H. DAVIS.
H. C. EASTMAN.
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O. P. FRITCHIE.
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G. H. SETHMAN.
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H. J. WICHMAN.
H. J. WOLF.

AMERICAN ELECTROCHEMICAL SOCIETY

# GENERAL INFORMATION.

## PLACE OF MEETING.

The first session for the reading and discussion of papers will be held Tuesday morning at the Society Headquarters, the Shirley Hotel.

The Wednesday morning session will be held at the University of Colorado, at Boulder. A special car will leave Denver for Boulder at 9:00 A.M.

The Thursday session will be held in the afternoon at the Colorado School of Mines, at Golden. The special car for Golden leaves Denver at 11:00 A.M.

The concluding session will be held on Friday on the top of Pike's Peak.

## REGISTRATION.

A Registrar will be on hand to receive arriving members and guests, distribute badges and programs, and give other information, commencing Monday evening, September 8, in the lobby of the Shirley Hotel, 17th Avenue and Lincoln Street. Members are requested to visit the Registrar immediately after registering at the hotel.

## EXCURSIONS AND VISITS TO PLANTS.

On Tuesday afternoon, September 9, arrangements have been made for visits to the following plants in and around Denver. Guides will be provided for as many parties as required.

*Sutton, Steele & Steele Co.:* Experimental mill and testing plant. Dry process of ore concentration; electrostatic separation of sulphide minerals.

*Western Chemical Manufacturing Co.:* Manufacture of acids, anhydrous ammonia, and liquid carbonic acid, concentration of mixed sulphide ores, magnetic separation, producer-gas power plant. This company reserves the right to exclude visitors connected with competing plants, and none such should visit the plant unless by express permission and the extension of the courtesy of a return visit.

*Henry E. Wood Ore Testing Co.:* General testing of ores; concentration, flotation, cyanidation, magnetic separation.

On Wednesday morning, September 10, at 9:00 A.M., Denver & Interurban special cars will be taken for Boulder ($1.25 round trip) where the morning session for the reading and discussion of papers will be held at the University of Colorado. Following the meeting, lunch will be served by the University, after which the Boulder Motor Club will take members to the power plant of the Central Colorado Power Co., up Boulder canon. This is a

beautiful ride, and the plant is interesting as showing the type of hydroelectric development in the West. The return will be made at 4:30 P.M., arriving in Denver at 6:00 P.M. **Note:** Ladies will be interested in this trip, and arrangements will be made for their entertainment at the University during the morning session.

On Thursday morning, September 11, visits to more Denver plants will be made, including:

*United States Mint:* Electrolytic refining of gold.

*American Zinc Ore Separating Co.:* Testing plant, electrostatic separation, dry jigging, separation of complex ores.

*American Smelting & Refining Co.:* Lead smelting, Huntington-Heberlein and Dwight-Lloyd sinter roasting, bag-house recovery of smelter fume.

*Screenless Sizer Co.:* McKesson-Rice screenless sizing of ores, crushed rock and coal.

At 11:00 A.M., Thursday, special cars will be taken for Golden (50 cents round trip). On arrival, lunch will be served by the Colorado School of Mines, followed by an afternoon session for the reading and discussion of papers.

Thursday evening, conveyances will be provided for a trip from Golden to Lookout Mountain, where an informal picnic dinner will be tendered the visitors, by the Colorado Scientific

Society. At night, Denver presents a wonderful sight from Lookout Mountain—a mass of lights out on the plain. Ladies are particularly urged to go to Golden and the picnic dinner.

On Friday morning, September 12, at 8:00 A.M., the party will leave Denver for Colorado Springs, *via* Santa Fe, arriving at 10:30 A.M. Street cars will be taken to Manitou for the "Cog Wheel Route" to the top of **Pike's Peak,** where lunch can be had, and the final session for reading of papers will be held, returning to Colorado Springs in the afternoon. (Fare up Pike's Peak and back $5.00, or $4.00 if a sufficient number go to secure the special rate.)

Visits may be made to the cyanide mill of the Golden Cycle Mining Co. (roasting and cyanidation of Cripple Creek sulpho-telluride ores), the Garden of the Gods ($1.00); Cave of the Winds ($1.00); Cheyenne Canon and Seven Falls ($1.00); etc.

The night will be spent at Colorado Springs.

On Saturday morning, at a time to be announced, a special train on the Cripple Creek Short Line will take the party to Cripple Creek district ($2.50 round trip). This is a wonderful scenic trip and takes the party into the greatest gold mining district on the continent. The party can detrain near the Portland mill, and visit the plant. This mill treats low-grade ore (Gross value, $3.15 per ton) by the cyanide process; sand leaching; slime agitation and vacuum filtration; zinc-dust precipitation. After visiting the mill, the party will be taken

over the High Line electric road to Cripple Creek, where lunch can be had, and where the train will be taken for the return to Colorado Springs.

## ENTERTAINMENT FOR LADIES.

According to the program as outlined here, the ladies may accompany the party to Boulder, Golden and Cripple Creek and Pike's Peak, and enjoy the lunches, rides, etc. In addition to this, there will probably be a theater party on the night of the smoker (Tuesday).

# PROGRAM.

MONDAY, SEPTEMBER 8.

**Arrive Denver about 1:30 P.M.** There will be a sufficient number of autos at the depot to accommodate the party for a ride about the City, through the parks and boulevards, finally arriving at the Shirley Hotel, the headquarters.

**6:00 P.M.** Registration.

**8:30 P.M.** Meeting of the Board of Directors. Opportunity to meet members and their friends socially in the Shirley Hotel.

TUESDAY, SEPTEMBER 9.

**10:00 A.M. Reading and Discussion of Papers.**

(11) Some Aspects of Heat Flow. E. F. Northrup.

(1) The Shape Factor. Irving Langmuir.

(4) The Heat Resistivity of Graphite and Carbon. J. W. Richards.

(12) The Electrolysis of Cyanide Solutions. E. F. Kern.

(13) The Electrolysis of Aqueous Solutions of the Simple Alkaline Cyanides. G. H. Clevenger and M. L. Hall.

## NOTES.

(Numbers prefixed to papers on program indicate papers printed in advance, numbered correspondingly.)

(7) Possible Applications of the Electric Furnace to Western Metallurgy. D. A. Lyon and R. M. Keeney.

**Afternoon: Visits to plants.** (Note: Arrangements have been made for visits to several plants, and guides can be provided for several parties if required.)

*Sutton, Steele & Steele Co.:* Experimental mill and testing plant. Dry process of ore concentration; electrostatic separation of sulphide minerals.

*Western Chemical Manufacturing Co.:* Manufacture of acids, anhydrous ammonia, and liquid carbonic acid, concentration of mixed sulphide ores, magnetic separation, producer-gas power plant. This company reserves the right to exclude visitors connected with competing plants, and none such should visit the plant unless by express permission and the extension of the courtesy of a return visit.

*Henry E. Wood Ore Testing Co.:* General testing of ores; concentration, flotation, cyanidation, magnetic separation.

**Evening:** Invitation smoker, at the University Club.

WEDNESDAY, SEPTEMBER 10.

**9:00 A.M.** Take Denver & Interurban special cars (Interurban Loop) for **Boulder.**

# NOTES.

($1.25 round trip.) Morning session at the University of Colorado for

**Reading and Discussion of Papers.**

(6) The Art of Electric Zinc Smelting. W. McA. Johnson.

(16) The Electric Zinc Furnace. P. E. Peterson.

(2) Simultaneous Determination of Copper and Lead, with the Rotating Anode. A. J. White.

(3) Rapid Refining of Copper with a Rotating Cathode. C. W. Bennett and C. O. Brown.

(17) Solid Thick Deposits of Lead from Lead Acetate Solutions. F. C. Mathers.

(5) Effect of Light on Decomposition Voltage. Alan Leighton.

**Afternoon:** Following the meeting, lunch will be served by the University, after which the Boulder Motor Club will take members to the power plant of the Central Colorado Power Co., up Boulder canon. This is a beautiful ride, and the plant is interesting as showing the type of hydroelectric development in the West. The return will be made at 4:30 P.M., arriving in Denver at 6:00 P.M. **Note:** Ladies will be interested in this trip, and arrangements will be made for their entertainment at the University during the morning session.

## NOTES.

THURSDAY, SEPTEMBER 11.

**Morning: Visits to plants.**

*United States Mint:* Electrolytic refining of gold.

*American Zinc Ore Separating Co.:* Testing plant, electrostatic separation, dry jigging, separation of complex ores.

*American Smelting & Refining Co.:* Lead smelting, Huntington-Heberlein and Dwight-Lloyd sinter roasting, bag-house recovery of smelter fume.

*Screenless Sizer Co.:* McKesson-Rice screenless sizing of ores, crushed rock and coal.

**11:00 A.M.** Take special cars for Golden (50c. round trip). Lunch will be served on arrival by the Colorado School of Mines.

**2:00 P.M.** At the Colorado School of Mines,

**Reading and Discussion of Papers.**

(9) Electric Smelting of Chromium, Tungsten, Molybdenum and Vanadium Ores. R. M. Keeney.

(10) The Carnotite Industry. Siegfried Fischer.

(18) Progress in Electrostatic Ore Dressing. F. S. MacGregor.

(14) Some Observations on Base Metal Thermocouples. O. L. Kowalke

(15) Osmium-Platinum. F. Zimmermann.

(8) The Transformation of Radiant into Chemical Energy. S. C. Lind.

# NOTES.

**Evening:** Conveyance will be provided from Golden to Lookout Mountain, where an informal picnic dinner will be tendered the visitors, by the Colorado Scientific Society. At night, Denver presents a wonderful sight from Lookout Mountain—a mass of lights out on the plain. Ladies are particularly urged to go to Golden and the picnic dinner.

FRIDAY, SEPTEMBER 12.

**8:00 A.M.** Leave Dinner by Santa Fe for Colorado Springs, arriving at 10:30 A.M. Take street cars for Manitou.

**11:30 A.M.** Leave Manitou via "Cog Wheel Route" to top of **Pike's Peak,** where lunch can be had, and the final session will be held. Return to Colorado Springs in the afternoon.

Visits may be made to the cyanide mill of the Golden Cycle Mining Co. (roasting and cyanidation of Cripple Creek sulpho-telluride ores), the Garden of the Gods ($1.00); Cave of the Winds ($1.00); Cheyenne Canon and Seven Falls ($1.00); etc.

SATURDAY, SEPTEMBER 13.

**Morning:** Special train on the Cripple Creek Short Line for Cripple Creek district ($2.50 round trip). The party can detrain near the Portland mill, and visit

## NOTES.

the plant. This mill treats low-grade ore (Gross value, $3.15 per ton) by the cyanide process; sand leaching; slime agitation and vacuum filtration; zinc-dust precipitation. After visiting the mill, the party will be taken over the High Line electric road to Cripple Creek, where lunch can be had, and where the train will be taken for the return to Colorado Springs.

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## Hotel Rates.

**Denver:**

Shirley Hotel (Headquarters)—

| | One person. | Two persons. |
|---|---|---|
| With bath ... | $2.50 | $4.00 |
| Without bath. | 1.50 | 2.50 |

The following hotels are within one block of the headquarters:

Brown Palace, European, $1.50 and up.

Savoy, European, $1.50 and up.

Metropole, American and European—
$3.00 $1.00 and up.

**Colorado Springs:**

Antlers, European, $1.50 and up.

Alamo, European, $1.00 and up.

**Cripple Creek:**

Lunch, *a la carte.*

**Pike's Peak:**

Lunch, *a la carte.*

# OFFICERS OF THE SOCIETY.

**President.**

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**Past-Presidents.**

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**Vice-Presidents.**

F. A. Lidbury, C. F. Burgess.
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Carl Hering, C. G. Schluederberg,
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Pedro G. Salom.

**Secretary.**

Jos. W. Richards, Lehigh University,
South Bethlehem, Pa.

# LOCAL SECTIONS OF THE SOCIETY.

*Wisconsin Section (Madison, Wis.).*
Prof. C. F. Burgess, Chairman, University of Wisconsin.
Dr. O. P. Watts, Secretary, University of Wisconsin.

*Philadelphia Section.*
Carl Hering, Chairman.
S. S. Sadtler, Secretary, 39 S. 10th St., Philadelphia.

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P. E Kern, Secretary, State College, Pa.

*Pittsburgh Section.*
C. G. Schluederberg, Chairman, Pittsburgh, Pa.
Sidney Cornell, Secretary-Treasurer, Beaver, Pa.

## ADMISSION AND DUES.

Entrance Fee, $5.00 Yearly Dues, $5.00. Application blanks and any other information may be obtained from the Secretary. Each member receives the Transactions of the Society, containing the papers and discussions of the General Meetings of the Society, and also, at present, the Transactions of the Faraday Society.